

Appl. No 10/771,763

Amdt. Dated December 4, 2007  
Reply to Office Action of June 5, 2007

#### REMARKS/ARGUMENTS

#### **SUBSTANCE OF INVENTOR MEETING WITH EXAMINER**

The Inventor met with the Examiner on August 10, 2007. The substance of that meeting was that the negative limitation related to Royalty's canted arm were being removed. The inventor also explained that Fuerder does not stabilize in 3 axes as does the present invention.

#### **INVENTOR'S DISCUSSION of EXAMINER'S COMMENTS**

The Examiner submits that Claims 1, 3-4, 7-11 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Royalty (U.S. Pat. No. 6,859,185).

The inventor respectfully submits that the present invention in view of Royalty, which was the primary objection in the second office action, and the present invention in view of Feureder, and Feureder in view of Royalty, Rast, Galante, Spagnoli, Trask & Jordan, do not make obvious or anticipate Grober.

The amendments to Grober herein, previously rejected under 35 U.S.C. 112, wherein the specification does not discuss the exclusion of Royalty are no longer based on the exclusion of Royalty. The further objection to the negative limitation has also been corrected with the removal of the negative limitation.

The claims rejected as being anticipated by Fuereder are hereby overcome for two reasons, but in large part due to Grober's rewriting of the claims and claiming specific tasks that the stabilized buoy would accomplish which Fuereder neither specifies, claims and that his buoy could not accomplish.

First: Fuereder states in Claim 1: "An apparatus for establishing and maintaining control over an area of the sea from a remote location" and claims a buoy with three attributes; adjustable

buoyancy to submerge, remote control, and communications between buoys. The only devices described in Fuereder include the Abstract which states: "Detection devices such as infrared or acoustical sensors, and weapons such as missiles, are mounted on the platform affixed to a mast on top of each station." and his Figures and descriptions specifically call for **combat weapons** as identified in FIG 3, # 33.

Grober's invention specifically teaches and claims sensors and tools, working together, to accomplish one of several specific tasks. Independent Claim 37 reads;

- (e) the tool undertakes a physical operation or task which includes at least one of  
**painting, drilling, welding, sand blasting, fire extinguishing, spraying with water, spraying with chemicals, pumping water, pumping chemicals, illuminating.**

These tasks such as painting drilling, welding, etc., would not be obvious or anticipated from Fuereder who is establishing and maintaining control over an area of the ocean with combat weapons.

The second issue of difference is that Fuereder's physical specification would not accomplish the tasks as described in Grober. Fuereder teaches stabilization in two axes of the horizontal plane for his stabilized platform. Fuereder does not teach stabilization in three axes to include azimuth. Fuereder describes his stabilization in his specification for FIG 1, 2, & 3, starting in Col 3 line 35 and states in line 37 that;

"A gyroscopic system 34 could be used for this purpose."

Viewing device 34 in FIG 1 shows it to be a universal joint, which if it had motors attached, **which it does not**, might provide stabilization in pitch and roll. FIG 3 provides a closer cutaway of #34, which specifically shows a 2 axis universal joint including its gimbal structure and axis pins. Again, there are no motors shown or specified to move the gimbal and provide stabilization, but even if there were, the structure is clearly a **standard universal joint which allows movement in pitch and roll and precludes movement in azimuth.**

Whereas Grober in Claim 37 states;

“(d) at least one of the devices is stabilized by the stabilizing head which stabilizes in one two or three axis which include pitch, roll and azimuth,”

and Grober Claim 38 further makes the limitation of a three axes stabilization head.

“The stabilized buoy platform of Claim 37 wherein the stabilizing head stabilizes in three axes of pitch, roll and azimuth.”

Furthermore, Fureder cannot anticipate Grober because where Grober describes and claims a device to stabilize in three axes, Feureder has no claims or specification teaching how to stabilize in azimuth, does not specify motors or sensors to accomplish the task, and even if they could be inferred, specifically shows a universal joint which precludes azimuth.

Fuereder's only additional axis of movement is an extension arm to adjust height above the water as described in column 3 line 21;

“The mast may be either extendable and retractable or may be of a fixed length.”

This vertical axis extension of Fureder is equivalent to Grober's separately described vertical axis extension described in Grober paragraph [0045] and FIG 6.

“Inside extension arm 152 is a piston mechanism 158 which can move up or down to further keep the sensor 154 at a determined level beneath the water surface.”

Because Fureder is a stationary submersible buoy and buoy system for maintaining control of an area of the sea with combat weapons, and his physical specification fails to provide or teach the ability to accomplish Grober's stabilized buoy platform's tasks, including painting, drilling, welding, sandblasting, etc., inventor Grober respectfully submits that Fureder does not make obvious or anticipate Grober.

#### END OF INVENTOR'S DISCUSSION of EXAMINER'S COMMENTS

#### Remarks concerning the change in the specification:

In the specification, paragraph [0045] has been amended to correct minor inconsistencies.

The words “and or” were added and support for that is found in Paragraph [0018]

"The result is that the invention is able to stabilize sensors and devices on the top stabilized plate as well as sensors and devices on the lower stabilized plate which can be extended into the water."

**Remarks concerning the changes in the Claims and support thereof.**

For ease, the claims are restated followed by support for each claim item. Specific support wording is generally highlighted.

**Claim 37: (new)**

A stabilized buoy platform comprising:

- (a) a buoy,
- (b) at least one stabilizing head is mounted to the buoy;
- (c) at least two devices which include at least one of a sensor and one of a tool, and
- (d) at least one of the devices is stabilized by the stabilizing head which stabilizes in one two or three axes which include pitch, roll and azimuth, and
- (e) the tool undertakes a physical operation or task which includes at least one of painting, drilling, welding, sand blasting, fire extinguishing, spraying with water, spraying with chemicals, pumping water, pumping chemicals., illuminating..

**SUPPORT for (a):** Paragraph [0003]. "The invention relates to a stabilized **buoy** platform ..."

**SUPPORT for (b), (c), (d):** Original Claim 1 (b):

(b) a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float in one, two or three axes, which include pitch, roll and azimuth."

**SUPPORT for (e):** Paragraph [0006] "Different embodiments would also include "tools" to undertake a variety of physical operations.

**Original Claim 6:** "tool undertakes a physical operation"

**Abstract:** "The invention also provides for other species of objects and tools, applicable in surveillance, security, protection and tasks where tools need to be stabilized to perform their intended functions."

Original Claim 10 together with Original Claim 11, and Paragraph [0029]:

**Original Claim 10:** "The stabilized buoy platform of Claim 1 wherein the device and/or tools are sensors and ..."

**Original Claim 11:** "... wherein the device and/or tools take an action based upon commands from a person or a computer.

**Paragraph [0015]:** use water cannon mounted on the stabilizer to pump water or chemical retardants into flames.

**Original Claim 6:**

The stabilized buoy platform of Claim 1 wherein the device and/or tools are, but not limited to; a paint brush, drill, welding iron and/or gun, and can accomplish tasks which are, but are not limited to; painting, drilling, welding, sandblasting and/or shooting."

**Paragraph [0047]** Fig. 8 depicts the buoy platform of Fig. 1 including a stabilized seat for an operator; the operator using a paint sprayer #46 as well as larger paint spraying tool #40.

**Paragraph [0008]** "In one embodiment, the stabilized buoy, whose cameras and sensors could monitor the underside of an oil terminal pier, would also incorporate heat and fire sensors. Should a fire occur underneath the pier, the buoy, remote controlled, either by human or computer means, moves to a fire fighting position, aims a stabilized water or chemical cannon at the flames to contain or put out the fire."

**Abstract:** "A stabilized buoy platform for cameras, sensors, illuminators and tools, which incorporates a buoy, a stabilizing mechanism and a stabilized payload platform thereon.

**Claim 38: (new)**

The stabilized buoy platform of Claim 37 wherein the stabilizing head stabilizes in three axes of pitch, roll and azimuth.

**SUPPORT:** Paragraph [0048] Grober original Claim 1;

"(b) a stabilizing system mounted on the platform for stabilizing a singular or plurality of devices and/or tools from movements of the buoy float in one, two or three axis which include pitch, roll and azimuth."

**Claim 39: (new)**

The stabilized buoy platform of Claim 37 comprising a propulsion unit to move the buoy to various locations to accomplish the physical operation or task.

**SUPPORT:** Paragraph [0034] "An optional **propulsion unit** 12 can move the buoy on the water to various locations ..."

**Claim 40: (new)**

The stabilized buoy platform of Claim 37 wherein the tool is at least one of a: paint brush, paint sprayer, drill, welder, sandblaster, fire extinguisher, water or chemical sprayer.

**SUPPORT: Original Claim 6:** "The stabilized buoy platform of claim 1 wherein the device and/or tools are, but are not limited to; a **paint brush, drill, welding iron and/or gun.**"

Figure 8 depicts a paint sprayer directly on the stabilizer.

Paragraph [0009]. Similar results can be obtained using other types of tools such as **sand blasters.**

Paragraph [0015] use water cannon mounted on the stabilizer to **pump water or chemical retardants into flames.**

**Claim 41: (new)**

The stabilized buoy platform of Claim 38 wherein the tool emits or projects projectiles.

**SUPPORT: Original Claim 5:** The stabilized buoy platform of Claim 1 wherein the device and/or **tools emit or projects** particles of physical mass including, but not limited to; water, chemicals, paints, solvents, sand, rock or other **projectiles.**

**Claim 42: (new)** The stabilized platform of claim 37 comprising at least one of ground tackle or an anchoring system.

**SUPPORT** Paragraph [0033] **Ground tackle or anchoring system** 9, may include some or all of the following; windlass (anchor winch), line, chain and an anchor ...

**Claim 43; (new)**

The stabilized buoy platform of Claim 37 wherein, at least one of the sensor or the tool, is operated by at least one of remote control or autonomously.

**SUPPORT:** Paragraph [0029]: "The stabilizing head 2 is preferably remote controlled and/or autonomous."

**Paragraph [0008]:** Should a fire occur underneath the pier, the buoy, **remote controlled, either by human or computer means**, moves to a fire fighting position, aims a stabilized water or chemical cannon at the flames to contain or put out the fire.

**Paragraph [0036]:** The stabilizing platform is preferably **remote controlled and/or autonomous** and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 44: (new)**

The stabilized buoy platform of Claim 37 wherein at least one of the pitch or roll axes allows for motion greater than 180 degrees.

**SUPPORT:** Paragraph [0042]: Pitch axis 61, rotates around a shaft located at shaft encoder 70 and moves orthogonally to roll axis shaft 69, allowing for **motion greater than 180 degrees ...**"

**Fig 5 and Fig 6** show one embodiment of this arrangement.

**Claim 45.**

The stabilized buoy platform of Claim 37 wherein at least two of the three axes of pitch, roll and azimuth allow for motion greater than 180 degrees, and at least one of the axes allows for motion of at least 360 degrees.

**SUPPORT:** Paragraph [0017]: “In a further embodiment, the stabilized platform can move and stabilize the payload plate 360 degrees in two orthogonal axes, thus providing global surveillance around the buoy platform.”

**Fig 5 and Fig 6** show one embodiment of this arrangement.

**Claim 46:** (new)

The stabilized buoy platform of Claim 37 wherein the sensor or the tool can be operated from the buoy by direct control of a human operator or a computer stationed on the buoy platform.

**SUPPORT: Original Claim 9:** “The stabilized buoy platform of Claim 1 wherein the device and/or tools can be operated from the buoy by direct control of a human operator or a computer stationed on the buoy platform.”

**Claim 47:** (new)

The stabilized buoy platform of Claim 37 wherein a computer recognizes movement within the stabilized sensor image and; the computer sends signals which control at least one of the sensor, the stabilizer or the tool to track the movement seen within the stabilized image.

**SUPPORT: Original Claim 10:** The stabilized buoy platform of Claim 1 wherein the device and/or tools are sensors and

- (a) a computer recognizes movement within the stabilized sensor image; and
- (b) the computer sends signals to the stabilizer and/or camera which control the stabilizer and/or camera to track the movement of the object seen within the stabilized image.

**Claim 48:** (new)

The stabilized buoy platform of Claim 37 wherein at least one of the sensor or tool sends signals to a computer which then controls at least one of the tools or supporting stabilizer to take an action.

**SUPPORT:**

**Original Claim 10:** The stabilized buoy platform of Claim 1 wherein the device and/or tools are

sensors and

- (a) a computer recognizes movement within the stabilized sensor image; and
- (b) the computer sends signals to the stabilizer and/or camera which control the stabilizer and/or camera to track the movement of the object seen within the stabilized image.

**Original Claim 11.** The stabilized buoy platform of Claim 10 wherein the device and/or tools take an action based upon the commands from a person or a computer.

**Claim 49: (new)**

A stabilized buoy platform comprising:

- (a) a buoy,
- (b) at least one stabilizing head is mounted to the buoy;
- (c) an extension arm extending downward into the water, and
- (d) at least one device which includes at least one of a sensor or a tool is mounted on the extension arm, wherein,
- (e) the device is stabilized in the water in one or more axes of pitch, roll and azimuth.

**SUPPORT:**

**Support for (a)** Paragraph [0003]. "The invention relates to a stabilized buoy platform ..."

**Support for (b)** Original Claim 1 (b):

(b) a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float ...”

**Support for (c)** Paragraph [0018]: In another embodiment the payload platform being above the center of the pitch and roll axis, has an extension arm which projects downward ...

Paragraph [0045] An extension arm 152 is attached to axis 63

**Support for (d)** Paragraph [0045] “Attached to downward extension arm 152 is an underwater sensor device 154.”

Paragraph [0018] “The result is that the invention is able to stabilize sensors and devices on the top stabilized plate as well as sensors and devices on the lower stabilized plate which can be extended into the water. In a surveillance mode, this would allow surveillance above the horizon with sensors such as cameras, and surveillance below the surface with devices such as sonar.”

**Support for (e):** Paragraph [0018] “The result is that the invention is able to stabilize sensors and devices on the top stabilized plate as well as sensors and devices on the lower stabilized plate which can be extended into the water. In a surveillance mode, this would allow surveillance above the horizon with sensors such as cameras, and surveillance below the surface with devices such as sonar.”

Paragraph [0048] Claim 1(b) a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float in one, two or three axis which include pitch, roll and azimuth; and

**Claim 50:** (new) The stabilized buoy platform of claim 49 comprising at least two devices which include at least one of a sensor or a tool, and

(c) at least one of the devices is attached above the water and at least one of the devices is attached below the water, and

(d) both devices are stabilized in one or more axes.

**SUPPORT: Paragraph [0018] ]** “The result is that the invention is able to stabilize sensors and devices on the top stabilized plate as well as sensors and devices on the lower stabilized plate which can be extended into the water.”

**Claim 51:** (new)

The stabilized buoy platform of claim 37 wherein the sensor is replaced with a human who operates the tool, and a least one of the person or the tool are stabilized.

**SUPPORT: Figure 8.**

**Paragraph [0047]** Figure 8 shows the buoy platform of Figure 2 with the buoy platform enlarged to accommodate a man 41, sitting upon a stabilized seat 43, using the a paint spray gun tool 46 which is attached by hose 51a to paint reservoir 52a. The man is shown painting the side of ship 48. The man can also use the stabilized paint gun tool 40, which is attached by hose 51 to paint reservoir 52a. Camera 5 is attached to paint spray gun tool 46.

**Original Claim 9:** “The stabilized buoy platform of Claim 1 wherein the device and/or tools can be operated from the buoy by direct control of a human operator or a computer stationed on the buoy platform.”

**Claim 52:** (new) The method of stabilizing at least one device on a buoy and undertaking a physical operation or task comprising the steps of;

- (a) mounting at least one stabilizing head on a buoy,
- (b) mounting at least two devices on the buoy which include at least one of a sensor and one of a tool,
- (c) mounting at least one of the devices on the stabilizing head, and

(d) the tool is undertaking a physical operation or task which includes at least one of painting, drilling, welding, sand blasting, fire extinguishing, spraying with water, spraying with chemicals, illuminating.

**SUPPORT:**

**Support for (a): Paragraph [0003].** "The invention relates to a stabilized buoy platform ..."

**Support for (a), (b) & (c):** Original Claim 1(b):

"**a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float ...**"

**Original Claim 10:** "The stabilized buoy platform of Claim 1 **wherein the device and/or tools are sensors and ...**"

**Support for (d) [0006]** "Different embodiments would also include "tools" to undertake a variety of **physical operations**.

**Original Claim 6:**

"The stabilized buoy platform of claim 1 wherein the device and/or tools are, but are not limited to; **a paint brush, drill, welding iron and/or gun**, and can accomplish tasks that are, but not limited to **painting, drilling, welding, sandblasting, ...**"

**Paragraph [0015]** use water cannon mounted on the stabilizer to **pump water or chemical retardants into flames**.

**Figure 1 shows fire fighting.**

[0035] "The **fire nozzle tool 8** can shoot water which comes through the inlet pipe 20, pumped by pump 20, through fire hose 24. In an alternate embodiment, tank 30 may hold a fire retardant which moves under pressure or is pumped through retardant fire hose 26..."

**Abstract:** "A stabilized buoy platform for cameras, sensors, illuminators and tools, ...".

**Original Claim 10 together with Original Claim 11, and Paragraph [0029]:**

**Original Claim 11:** "... wherein the device and/or tools take an action based upon commands from a person or a computer.

**Abstract:** "A stabilized buoy platform for cameras, sensors, illuminators and tools, which incorporates a buoy, a stabilizing mechanism and a stabilized payload platform thereon."

Paragraph [0008] "In one embodiment, the stabilized buoy, whose cameras and sensors could monitor the underside of an oil terminal pier, would also incorporate heat and fire sensors. Should a fire occur underneath the pier, the buoy, remote controlled, either by human or computer means, moves to a fire fighting position, aims a stabilized water or chemical cannon at the flames to contain or put out the fire."

**Claim 53: (new)**

The method of claim 52 and the step of mounting a propulsion unit to the buoy platform for moving the buoy on the water.

**SUPPORT:** Paragraph [0034] "An optional propulsion unit 12 can move the buoy on the water to various locations ..."

**Original Claim 6:**

"The stabilized buoy platform of claim 1 wherein the device and/or tools are, but are not limited to; a paint brush, drill, welding iron and/or gun., and can accomplish tasks that are, but not limited to painting, drilling, welding, sandblasting, ..."

**Claim 54: (new)**

The method of claim 53 including the step of;  
the buoy platform moving to different locations and initiating physical operations using the tools affixed to the platform.

**SUPPORT:** [0006]: Different embodiments would also include “tools” to undertake a variety of physical operations which are linked to the ability of Grober 10/236,847 to capture images and sound, move to different locations and initiate physical operations using equipment onboard the buoy.

**Abstract:** Affixed to the stabilized payload platform are sensors and tools which include cameras and sensor systems integrated with the appropriate illumination technology, all of which are stabilized both for ease of tracking, identification and monitoring of targets. The invention also provides for other species of objects and tools, applicable in surveillance, security, protection and tasks where tools need to be stabilized to perform their intended functions.

**Claim 55:** (new) The method of claim 52 and anchoring the buoy platform using at least one of ground tackle or an anchoring system.

**SUPPORT Paragraph [0033]** Ground tackle or anchoring system 9, may include some or all of the following; windlass (anchor winch), line, chain and an anchor ...

**Claim 56:** (new)

The method of claim 52 wherein there is the step of operating the stabilized sensor or the tool by at least one of remote control or autonomously.

**SUPPORT: Paragraph [0029]:** “The stabilizing head 2 is preferably remote controlled and/or autonomous.”

**Paragraph [0008]:** Should a fire occur underneath the pier, the buoy, **remote controlled, either by human or computer means**, moves to a fire fighting position, aims a stabilized water or chemical cannon at the flames to contain or put out the fire.

**Paragraph [0036]:** The stabilizing platform is preferably remote controlled and/or autonomous and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 57: (new)**

The method of claim 52 wherein the stabilizing head is stabilizing in three axes of pitch, roll and azimuth.

**SUPPORT:** Paragraph [0048] Grober original Claim 1;

"(b) a stabilizing system mounted on the platform for stabilizing a singular or plurality of devices and/or tools from movements of the buoy float in one, two or three axis which include pitch, roll and azimuth."

**Claim 58: (new)**

The method of claim 52 where by remote control, the stabilized buoy platform is performing at least one of the tasks of firefighting, painting, drilling, welding or sandblasting.

**SUPPORT:** FIG 1. Shows the buoy platform putting out a fire and controlled remotely by a man in a boat.

**Paragraph [0035]** In the case of a fire on a pier 14, the operator can remotely move the buoy 1 into position, clearly see the pier and fire through camera 5, and operate the fire nozzle tool 8, to suppress the fire.

**Claim 59: (new)**

The method of claim 52 where by autonomous means, the stabilized buoy platform is performing at least one of the tasks of firefighting, painting, drilling, welding or sandblasting.

**SUPPORT:** Paragraph [0035]

The stabilizing platform is preferably remote controlled and/or autonomous and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 60: (new)**

The method of claim 52 wherein there is the step of making the stabilizing at least one of remote controlled or autonomous, and

the stabilized painting tool is used for painting at least one of a ship, wharf, pier or pilings.

**SUPPORT:** [0009]: In another embodiment, the stabilized buoy is a **wharf piling painter**. An automated paint gun can be programmed to paint even, continuous strokes of paint. This is accomplished because the buoy's stabilization system stabilizing the imaging sensor to clearly sense the location of the **piling and the non-painted areas on the piling**. The paint gun tool, which is also stabilized against the motion of the buoy, **can evenly apply paint to the non-painted areas** because it is also stabilized against the motion of the buoy. Similar results can be obtained using other types of tools such as sand blasters.

**Paragraph [0036]** "In this embodiment, the buoy float with its stabilized painting tool are painting the side of a ship 48."

**Claim 61:** (Canceled)

**Claim 62** (new)

The method of fighting a fire comprising;

- (a) mounting at least one stabilizing head on a buoy,
- (b) mounting at least one camera, sensor, or tool to be stabilized, on the stabilizing head
- (c) stabilizing at least one of the camera, sensor or tool, and
- (d) the tool is at least one of a firefighting tool or fire hose.

**SUPPORT for (a) & (b): Original Claim 1(b):**

"**a stabilizing system mounted on the platform for stabilizing a singular or a plurality of devices and/or tools from the movements of the buoy float ...**"

**Original Claim 10:** "The stabilized buoy platform of Claim 1 **wherein the device and/or tools are sensors and ...**"

**SUPPORT (c) & (d):** [0030] Tool support platform 3 provides an attachment mechanism for securing tool 8, such as a **fire nozzle**, camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 63:** (new)

The method of claim 62 comprising a propulsion unit for moving the buoy to various locations.

**SUPPORT:** Paragraph [0034] "An optional **propulsion unit** 12 can move the buoy on the water to various locations ..."

**Claim 64:** (new)

The method of claim 62 wherein the buoy platform can be controlled by at least one of remote control or autonomously.

**SUPPORT: Paragraph [0035]**

The stabilizing platform is preferably remote controlled and/or **autonomous** and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 65** (new)

The method of claim 63 including the steps of;  
the buoy platform, by at least one of remote control or autonomously, moving to a firefighting position and fighting a fire.

**SUPPORT: Paragraph [0008]:** Should a fire occur underneath the pier, the buoy, remote controlled, either by human or computer means, moves to a fire fighting position, aims a stabilized water or chemical cannon at the flames to contain or put out the fire.

**Claim 66** (canceled)

**Claim 67: (new)**

The stabilized buoy platform of Claim 37 wherein the stabilized buoy platform is performing by remote control, at least one of the tasks of firefighting, painting, drilling, welding or sandblasting.

**SUPPORT: FIG 1.** Shows the buoy platform putting out a fire and controlled remotely by a man in a boat.

**Paragraph [0035]** In the case of a fire on a pier 14, the operator can remotely move the buoy 1 into position, clearly see the pier and fire through camera 5, and operate the fire nozzle tool 8, to suppress the fire.

**Claim 68: (new)**

The stabilized buoy platform of Claim 37 which performs autonomously, at least one of the tasks of firefighting, painting, drilling, welding or sandblasting.

**SUPPORT: Paragraph [0035]**

The stabilizing platform is preferably remote controlled and/or **autonomous** and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 69: (new)**

The stabilized buoy platform of Claim 37 which paints autonomously at least one of a ship, a wharf, a pier, or pilings.

**SUPPORT: [0009]:** In another embodiment, the stabilized buoy is a **wharf piling painter**. An automated paint gun can be programmed to paint even, continuous strokes of paint. This is accomplished because the buoy's stabilization system stabilizing the imaging sensor to clearly sense the location of the piling and the non-painted areas on the piling. The paint gun tool, which is also stabilized against the motion of the buoy, can evenly apply paint to the non-painted areas because it is also stabilized against the motion of the buoy. Similar results can be obtained using other types of tools such as sand blasters.

**Paragraph [0036]** "In this embodiment, the buoy float with its stabilized painting tool are painting the side of a ship 48."

**SUPPORT: Paragraph [0035]**

The stabilizing platform is preferably remote controlled and/or **autonomous** and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 70:** (new)

The stabilized buoy platform of Claim 37 which performs autonomously and includes stabilization of an illumination source.

**SUPPORT: Paragraph [0007]**

In addition, various types of illumination or spectrums may be required to "see" objects within the sensor's field of view. Stabilization of the illumination source is therefore also desirable.

**Claim 71:** (new)

The stabilized buoy platform of Claim 37 which incorporates at least one of heat or fire sensors.

**SUPPORT: Paragraph [0008]**

In one embodiment, the stabilized buoy, whose cameras and sensors could monitor the underside of an oil terminal pier, would also incorporate heat and fire sensors.

**Claim 72:** (new)

The stabilized buoy platform of Claim 37 which incorporates at least one of a GPS or magnetometer for location reference.

**SUPPORT: Paragraph [0008]**

Different embodiments would also include "tools" to undertake a variety of physical operations which are linked to the ability of Grober 10/236,847 to capture images and sound, move to different locations and initiate physical operations using equipment onboard the buoy. Some of these operations are already claimed in Grober 10/236,847 and include **GPS location reference**, motorized propulsion and raising and lowering anchors and ground tackle.

**SUPPORT: Paragraph [0008]**

The types of sensors which can be used are varied and can include but are not limited to data from GPS, satellites, horizon radiation sensors, magnetometers, rate sensors, gyro sensors and level sensors.

**Claim 73: (new)**

The stabilized buoy platform of claim 49 further comprising an actuating mechanism projecting downward to compensate for the rise and fall of the buoy platform to keep a sensor or device a fixed level below the surface of the water to the extent allowed by the actuating mechanism.

**SUPPORT: Paragraph [0018]**

A further actuating mechanism, such as a hydraulic piston located in the extension arm the projects downward below the location of the pitch and roll axis, can **compensate for rise and fall of the buoy platform to the extent of the piston arm extension in the lower section**. This would keep a sensor, such as a sub surface sensor at a **fixed level**, for instance 1 foot below the surface.

**Claim 74: (new)**

The stabilized buoy platform of claim 49 comprising a propulsion unit to move the buoy to various locations.

**SUPPORT: Paragraph [0034]** “An optional **propulsion unit** 12 can move the buoy on the water to various locations ...”

**Claim 75: (new)**

The stabilized buoy platform of claim 49 which is be controlled by at least one of remote control or autonomously.

**SUPPORT: Paragraph [0035]**

The stabilizing platform is preferably remote controlled and/or **autonomous** and provides an attachment for securing a painting tool 40 and camera 5, and any other objects which need to be stabilized from the motion of the buoy.

**Claim 76: (new)**

The stabilized buoy platform of Claim 37 wherein at least one of the devices emits at least one of illumination, light or radiation.

**SUPPORT:** Original Claim 4: "The stabilized buoy platform of Claim 1 wherein the device and/or tools emit or projects light, illumination or radiation in various spectrums or frequencies."

\* \* \*

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

David E. Grober  
Inventor.  
(310) 822-1100

## United States Patent &amp; Trademark Office

Page 1 of 2



## United States Patent and Trademark Office

[Home](#) | [Site Index](#) | [Search](#) | [FAQ](#) | [Glossary](#) | [Guides](#) | [Contacts](#) | [eBusiness](#) | [eBiz Alerts](#) | [News](#) | [Help](#)[Portal Home](#) | [Patents](#) | [Trademarks](#) | [Other](#)**Patent eBusiness**

- [Electronic Filing](#)
- [Patent Application Information \(PAIR\)](#)
- [Patent Ownership](#)
- [Fees](#)
- [Supplemental Resources & Support](#)

**Patent Information**

- [Patent Guidance and General Info](#)
- [Codes, Rules & Manuals](#)
- [Employee & Office Directories](#)
- [Resources & Public Notices](#)

**Patent Searches**

- [Patent Official Gazette](#)
- [Search Patents & Applications](#)
- [Search Biological Sequences](#)
- [Copies, Products & Services](#)

**Other**

- [Copyrights](#)
- [Trademarks](#)
- [Policy & Law Reports](#)

**Patent Application Information Retrieval**[Order Certified Application As Filed](#) [Order Certified File Wrapper](#) [View Order List](#)

10/771,763

Stabilized buoy platform for cameras, sensors, illuminators and tools

**Transaction History****Date Transaction Description**

- 08-10-2007 Examiner Interview Summary Record (PTOL - 413)  
 06-26-2007 Case Docketed to Examiner in GAU  
 06-05-2007 Mail Non-Final Rejection   
 05-29-2007 Non-Final Rejection  
 03-21-2007 Date Forwarded to Examiner  
 12-21-2006 Response after Non-Final Action  
 12-21-2006 Request for Extension of Time - Granted  
 06-16-2006 Mail Non-Final Rejection  
 06-12-2006 Non-Final Rejection  
 02-04-2004 Information Disclosure Statement considered  
 03-24-2006 Date Forwarded to Examiner  
 06-25-2005 Response to Election / Restriction Filed  
 06-25-2005 Request for Extension of Time - Granted  
 06-25-2005 Request for Extension of Time - Granted  
 04-27-2005 Mail Restriction Requirement  
 04-22-2005 Requirement for Restriction / Election  
 12-16-2004 Transfer Inquiry to GAU  
 08-18-2004 IFW TSS Processing by Tech Center Complete  
 08-18-2004 Case Docketed to Examiner in GAU  
 02-04-2004 Reference capture on IDS  
 02-04-2004 Information Disclosure Statement (IDS) Filed  
 02-04-2004 Information Disclosure Statement (IDS) Filed  
 07-14-2004 Application Return from OIPE  
 07-14-2004 Application Is Now Complete  
 07-14-2004 Application Return TO OIPE  
 07-13-2004 Application Dispatched from OIPE  
 07-13-2004 Application Is Now Complete  
 06-22-2004 Additional Application Filing Fees  
 06-22-2004 A statement by one or more inventors satisfying the requirement under 35 USC 115, Oath of the Applic  
 05-05-2004 Notice Mailed--Application Incomplete--Filing Date Assigned  
 03-15-2004 Cleared by OIPE CSR  
 02-13-2004 IFW Scan & PACR Auto Security Review  
 02-04-2004 Initial Exam Team nn

*If you need help:*

- Call the Patent Electronic Business Center at **(866) 217-9197** (toll free) or e-mail [EBC@uspto.gov](mailto:EBC@uspto.gov) for specific questions about Patent Application Information Retrieval (PAIR).
- Send general questions about USPTO programs to the USPTO Contact Center

(30)